NOTES ON A COLLECTION OF CALIFORNIAN MAMMALS.

BY WITMER STONE.

The following list of mammals, obtained by Mr. A. S. Bunnell in the neighborhood of Berkeley and in the Sierras, and now forming part of the collection of the Academy of Natural Sciences of Philadelphia, is published as a contribution toward our knowledge of the distribution of the various species and subspecies. The bats have been studied and identified by Mr. J. A. G. Rehn.

Berkeley Collection.

Citellus grammurus beecheyi (Rich.).

A series from Berkeley.

Neotoma fuscipes Baird.

A number of specimens from Berkeley; two have partly bicolor tails and the color of the adults varies considerably, some being much redder than others. In view of this individual variation it would seem that the *N. fuscipes affinis* of Elliot and probably some of the other races recently proposed will, with *N. monochroura* of Rhoads, be eventually relegated to synonymy.

Peromyscus gambelii (Baird).

A series from Berkeley.

Peromyscus californicus (Gambel).

A number from Berkeley. Through the kindness of Mr. D. G. Elliot I have received from the Field Columbian Museum topotypes of his *P. dyselius* and certain other specimens, including *P. boylii*, for comparison with the above series. The result is that I find in the Berkeley lot typical specimens of both *P. californicus* and *dyselius* and others that appear to be equally referable to either, and my conclusion is that the latter form is based upon younger or smaller examples of *californicus*. Rhoads' *P. major* is likewise a synonym of *californicus*, as shown conclusively by a comparison of the types in the Academy collection. Mr. Bunnell got no specimens of *P. boylii* at Berkeley—that is, none of the form so identified by Mr. Elliot (*Field Col. Mus. Publ., Zool. Ser.*, I, No. 10, p. 206).

Microtus californicus (Peale).

A series from Berkeley.

Lepus bachmani Waterhouse.

A number of specimens from Berkeley and Belmont.

Lepus floridanus audubonii (Baird).

Two specimens. Belmont, November 28, and Berkeley, August 27.

Lepus californicus Gray.

Belmont, November 26.

Dipodomys californicus Merriam.

Belmont, April 2.

Reithrodontomys longicauda (Baird).

Berkeley; a series.

Thomomys bottæ (Eyd. and Gerv.).

A series; Berkeley.

Sorex californicus Merriam.

One specimen. Berkeley, December 19.

Sorex montereyensis Merriam

Several from Berkeley.

Scapanus californicus Ayres.

Several from Berkeley and San Francisco.

Antrozous pallidus pacificus Merriam.

Berkeley, September 17.

Myotis evotis (H. Allen).

Belmont, November 4.

Lasiurus cinereus (Beauv.).

A pair. Berkeley, April 2.

Nyctinomus cynocephalus californicus (H. Allen).

A series. Belmont. These specimens have the forearm considerably longer than in the Eastern *cynocephalus,* and differ appreciably in color, though the latter is rather uncertain as few skins of *cynocephalus* are available for comparison. A skin of *cynocephalus* appears decidedly brownish when compared with *californicus;* the upper parts are mummy brown against seal brown with a grayish suffusion in *californicus,* the under parts are raw umber compared with sepia suffused with ashy gray in *californicus.*

The relationship with *N. mexicanus* (Saussure) it is not possible to ascertain, as too little material is available.

Comparative measurements are as follows:

	Average of nine specimens of *cynocephalus*[1]	Average of five specimens of *californicus*.
Total length,	99.7 mm.	102.8 mm.
Length of forearm,	39.5 "	42.6 "

Canis ochropus Eschz.

Belmont, March 23, 1900.

Lynx fasciatus oculeus Bangs.

Belmont, March 14, 1900.

Sierran Collection.

These specimens were all secured in June and July, 1898 on a trip to Mount Tallac. Some specimens obtained to the east of the mountains as well as a few from western Nevada, are included.

Ammospermophilus leucurus (Merriam).

July 18. Gardnerville, Nevada. Rather pinker than any of our *leucurus* series, but the latter are all winter specimens, which possibly accounts for the difference in tint.

Colobotis beldingi (Merriam).

A series from Mount Tallac.

Citellus grammurus beecheyi (Rich.).

Two females. Mount Tallac, July 4 and 6. A silver suffusion extends across the central dark band on the hind neck and shoulders, nearly obliterating it, thus tending toward *fisheri*.

Callospermophilus chrysodeirus (Merriam).

A series from Mount Tallac shows great variation in the depth of color on the head and shoulders.

Eutamias senex (Allen).

A series from Mount Tallac. Several of the July specimens show rusty spots in the pelage.

Eutamias minimus pictus (Allen).

Gardnerville, Nevada, July 11.

Eutamias amœnus (Allen).

Six specimens. Mount Tallac and Mount Sugar. One taken July 17 is bright rusty red on the sides and more red above, being well advanced in the molt to the post-breeding pelage.

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[1] Bangs, *Proc. Bost. Soc. Nat. Hist.*, XXVIII, p. 218.

Sciurus douglassii albolimbatus Allen.

Two from Pyramid Peak, June 22, and one from Mount Tallac, June 27.

Sciuropterus alpinus lascivus Bangs.

Two topotypes. Mount Tallac, July 6 and 8. While these agree with Bangs' diagnosis, they are certainly very close to *S. a. californicus* Rhoads, of which I have the type before me.

Arctomys flaviventer Aud. and Bach.

Two from Mount Tallac, June 13 and July 4.

Neotoma desertorum Merriam.

Gardnerville, Nevada. Eight specimens.

Neotoma cinerea (Ord.).

A series from Mount Tallac.

Peromyscus texanus deserticola (Mearns).

A large series from Mount Sugar and Gardnerville, Nevada, seem referable to this race.

Peromyscus texanus artemisiæ (Rhoads).

A number of specimens from Slippery Ford, El Dorado county, agree well with Rhoads' type series.

Zapus trinotatus alleni Elliot.

A series from Mount Tallac and Slippery Ford.

Microtus mordax (Merriam).

One from Mount Sugar, Nevada, kindly identified by Mr. Vernon Bailey.

Thomomys monticola Allen.

Three specimens from Slippery Ford, El Dorado county, one of which is changing from the purplish-brown pelage to a bright yellow-brown.

Thomomys aureus perpes Merriam.

Four specimens from Mount Sugar, Nevada.

Lepus arizonæ (Allen).

Gardnerville, Nevada, One specimen, July 12.

Lepus californicus Gray.

Valley Springs, June 2.

Ochotona schisticeps (Merriam).

Three from Mount Tallac, June 12, June 26 and July 8.

Sorex obscurus (Merriam).

One specimen. Slippery Ford, June 8.

Myotis yumanensis (H. Allen).

One specimen, Mount Tallac. July 6.

Eptesicus fuscus melanopterus Rehn n. subsp.

Type.—Mount Tallac, California. ♂. July 10, 1898. No. 11,685, Coll. Acad. Nat. Sci. Phila. Collected by A. S. Bunnell.

General Characters.—Similar to *E. fuscus osceola* Rhoads in size and cranial characters, but differing in the darker upper surface, the grayer under parts and the blacker membranes. From *fuscus* it may immediately be differentiated by the more reddish-brown upper surface and less silvery under parts.

Distribution.—Specimens from the type locality only have been examined.

Size.—In general proportions *fuscus*, *f. osceola* and *f. melanopterus* seem almost identical. The average of five specimens of each shows that *f. melanopterus* has the forearm averaging almost three millimeters longer than in *fuscus*, while *osceola* is considerably smaller than the former, and very slightly less than the latter.

Color.—Above rather dark cinnamon, lightest on the top of the head and at the shoulders. Under surface reddish wood brown. Membranes and face deep blackish. In true *fuscus* the upper surface is drab, below pale isabella color. In *fuscus osceola* the upper parts are much the same tint as in *melanopterus*, but not as rich in tone, while the under parts are more of a yellowish-brown, and not as ashy in tint. The membranes of *fuscus osceola* are much paler in coloration than in *melanopterus*.

Skull.—Identical with the typical form.

Teeth.—The last upper molar in *melanopterus* appears to be broader than in *fuscus* or *f. osceola*. Otherwise the dental series seem to be identical.

Remarks.—The form from Mount Tallac is no doubt closest related to *f. osceola* than any of the form of *fuscus*. The original series of the former has been examined in this connection, and the differential characters were drawn from it. The relationship with true *fuscus* is not so close as an examination of a series of thirty specimens from, or within a radius of, twenty miles of the type locality shows. No close relationship exists with *E. f. bernardinus* Rhoads, which is a very pale type quite different from any of the forms here considered. From *f. osceola* the new form may be easily distinguished by the richer color of the upper parts and the more smoky under surface, as well as the more blackish membranes.

Measurements.—Type: Total length 104 mm., length of tail vertebræ

40 mm., length of ear 12 mm., length of tibia 17 mm., extent 314 mm.

Specimens Examined.—Type and four paratypes (skins).

Comparative Measurements.

	Average of five topotypes of *fuscus*.	Average of five topotypes of *f. osceola*.	Average of five specimens of *f. melanopterus*.
Total length,	114.6 mm.	113.6 mm.	112.6 mm.
Length of forearm,	44.2 "	43.2 "	47 "
Length of tibia,	17 "	17.8 "	18 "
Length of tail vertebræ,	42.2 "	45.4 "	43.8 "

Lasiurus borealis teliotus (H. Allen).

Linden, San Joaquin county, California. ♀. June 2, 1898.

On comparison with Eastern specimens of *borealis*, this specimen has the under surface much paler and more of a pale buff tint. This does not seem to have been noticed by Miller (*North Amer. Fauna*, No. 13, pp. 110–111) in summarizing the differential characters of the race.